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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: :  
CHARLES D. JAQUAYS : Group Art Unit: 1755  
For: Building and Other Materials : Examiner: Marcantoni, Paul D.  
Containing Treated Bauxite Tailings :  
and Process for Making Same :  
Serial No. 10/690,729 :  
Filed: 10/23/2003 :

**COMPLETE LISTING OF ALL CLAIMS EVER PRESENTED (37 CFR 1.121c)**

Claims 1-28 (cancelled).

Claims 31-32 (cancelled).

Claim 29. (Currently amended) A process for treating bauxite tailings to ~~substantially~~ neutralize a predominant proportion of sodium hydroxide present therein, comprising:

pulverizing said bauxite tailings into a ~~generally~~ homogenous powder:

agitating said powder while adding sufficient water to form a ~~generally~~ free flowing slurry;

adding sufficient sulfuric acid to the slurry to neutralize said sodium hydroxide to a pH of ~~about~~ 5.5 to 6 to form water and an aqueous solution of sodium sulfate; and  
separating said aqueous sodium sulfate solution from remaining insoluble slurry without washing said slurry, while permitting a ~~catalytically effective~~ residual amount of

sodium sulfate to remain with said insoluble slurry sufficient to catalyse carbonate crystalization;  
and

further treating said insoluble slurry to form a component of cementitious  
building material.

Claim 30. (Currently amended) The process of claim 29 wherein said homogenous powder is sufficiently fine to ~~generally~~ pass through a 16 mesh screen.

Claim 33. (Currently amended) A product ~~obtainable~~ obtained by the process of claim 29.

Claim 34. (Currently amended) A process for treating bauxite tailings to ~~substantially~~ neutralize a predominant proportion of sodium hydroxide present therein, comprising:

pulverizing said bauxite tailings into a ~~generally~~ homogenous powder wherein said homogenous powder is sufficiently fine to ~~generally~~ pass through a 16 mesh screen;  
agitating said powder while adding sufficient water to form a ~~generally~~ free flowing slurry;

agitating said slurry while adding sufficient sulfuric acid to the slurry to neutralize said sodium hydroxide to a pH of ~~about~~ 5.5 to 6 to form water and an aqueous solution containing sodium sulfate formed by said neutralization; and

separating said aqueous sodium sulfate solution from remaining insoluble slurry containing ~~catalytically effective amounts of~~ residual sodium sulfate without washing said insoluble slurry.

Claim 35. (Previously presented) The process of claim 34 wherein said insoluble slurry is further treated to form a component of a building material.

Claim 36. (Previously presented) The process of claim 35 wherein said building material is cementitious.

Claim 37. (Previously presented) The process of claim 36 wherein said residual sodium sulfate remaining in the insoluble slurry catalyzes subsequent formation of carbonaceous crystals in said cementitious material.

Claim 38. (Currently amended) A product ~~obtainable~~ obtained by the process of claim 34.

Claim 39. (Currently amended) A process for forming a cementitious material containing treated bauxite tailings comprising:

pulverizing said bauxite tailings into a ~~generally~~ homogenous powder wherein said homogenous powder is sufficiently fine to ~~generally~~ pass through a 16 mesh screen;

agitating said powder while adding sufficient water to form a ~~generally~~ free flowing slurry;

agitating said slurry while adding sufficient sulfuric acid to the slurry to neutralize sodium hydroxide present in the slurry to a pH of ~~about~~ 5.5 to 6 to form water and an aqueous solution containing sodium sulfate formed by said neutralization;

separating said aqueous sodium sulfate solution from remaining insoluble slurry containing residual catalytically effective amounts of ~~residual~~ sodium sulfate without washing said insoluble slurry; and

combining said insoluble slurry in an amount of from ~~about~~ 5 to 50 percent by volume with a cementitious substance to form said cementitious material.


Claim 40. (Previously presented) The process of claim 39 wherein said cementitious substance is cement.

Claim 41. (Previously presented) The process of claim 39 wherein said insoluble slurry is combined with said cementitious substance, compacted and cured to form a brick.

Claim 42. (Currently amended) The process of claim 41 wherein said brick is cured in a super saturated humidity environment ~~for a predetermined time period.~~

Claim 43. (Currently amended) The process of claim 42 wherein said ~~time~~ cure is for a period ~~is~~ of at least 168 hours.

Claim 44. (Currently amended) A product ~~obtainable~~ obtained by the process of claim 39.



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